



## DEPARTMENT OF INDUSTRIAL RELATIONS

455 GOLDEN GATE AVENUE  
SAN FRANCISCO 94102ADDRESS REPLY TO:  
P.O. Box 603  
San Francisco 94101SUMMARY CHRONOLOGY: DBCP

- 1955: DBCP first developed and sold.
- 1957: Dr. Charles Hine conducts research for Shell on DBCP at Univ. of Calif. Rats show severe testicular atrophy.
- 1961: Hine and Torkelson, who has conducted similar research for Dow, publish results in Toxicology and Applied Pharmacology (journal).

Report states that most striking results are severe testicular atrophy, and reduced and abnormal sperm production. Report concludes that adverse effects were seen at 5 ppm, but that 1 ppm should be safe. Recommends close observation of all persons exposed to DBCP.

- 1961: DBCP registered as pesticide with U.S. Food and Drug Administration.

1963-1970: Tolerances in plant residues established of up to 130 ppm.

- 1973: National Cancer Institute publishes first of four animal studies showing DBCP to be a carcinogen.

- 1976: April 15: Environmental Protection Agency identifies DBCP as a "candidate" for a Rebuttable Presumption Against Registration (RPAR) proceeding, the first official step toward restricting or banning use, based on carcinogen studies.

- 1976: August: Occidental Chemical employee files workers' compensation claim for sterility.

- 1976: November: EPA sends letter to Dow, Shell, and other parties, asking for any adverse data existing on DBCP. Dow and Shell submit data.

1977:

- July 21: At Cal/OSHA training session for Chemical and Atomic Workers Union, Union informally reports that Dr. Donald Whorton working on a sterility problem. Cal/OSHA Chief Art Carter suggests that Union and company request consultation with Cal/OSHA program.

- July 27: Company makes the request.

Note  
3 yr.  
gap



- July 29: Cal/OSHA Dr. Robert Johnson (Calif. Dept. of Health) reports results of searching the medical literature: DBCP should be suspected as sterilant. All Occidental production of DBCP suspended.
- August 11: Dow reports that many workers at Magnolia, Ark. DBCP plant are sterile.
- August 12: California OSHA and Department of Food and Agriculture simultaneously announce ban on manufacture, formulation, sale, and use of DBCP.
- August 31: Fed/OSHA discusses development of Emergency Temporary Standard with Cal/OSHA .
- September 9: Fed/OSHA and EPA jointly announce restrictions on manufacture, formulation, sale, and use of DBCP.
- September 22: EPA publishes Rebuttable Presumption Against Registration for all other DBCP uses.
- September 27: Dow reports one Ark. worker has testicular cancer.
- September 29: Cal/OSHA Standards Board adopts Standard on DBCP.
- October 12-19: Don Vial, Director of Department of Industrial Relations, holds public hearings on DBCP-related matters.